

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau(43) International Publication Date  
8 January 2004 (08.01.2004)

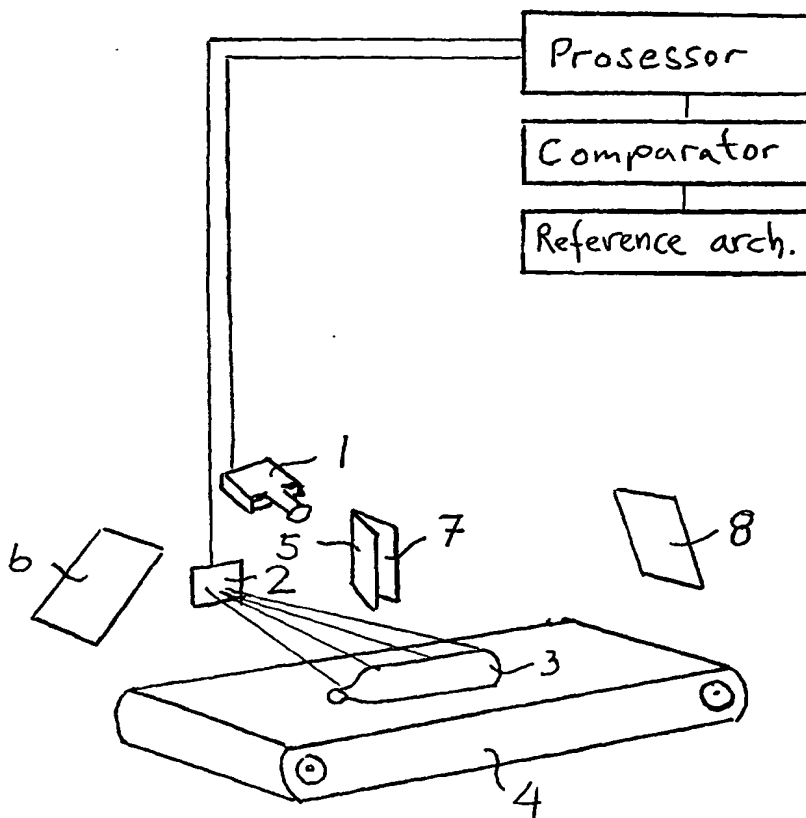
PCT

(10) International Publication Number  
WO 2004/003831 A1

- (51) International Patent Classification<sup>7</sup>: G06K 7/10, (74) Agent: LANGAN, Hans; Zacco Norway As, P.O. Box 765, Sentrum, N-0106 Oslo (NO).
- (21) International Application Number: PCT/NO2003/000213 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 25 June 2003 (25.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 20023091 26 June 2002 (26.06.2002) NO
- (71) Applicant (*for all designated States except US*): TOMRA SYSTEMS ASA [NO/NO]; Drengsrudhagen 2, N-1372 Asker (NO).
- (72) Inventor; and (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (75) Inventor/Applicant (*for US only*): NORDBRYHN, Andreas [NO/NO]; Nilserudkleiva 12 A, N-0874 Oslo (NO).

[Continued on next page]

(54) Title: DEVICE FOR RECOGNISING CONTAINERS



(57) Abstract: A device for recognising a container, such as a bottle or a can, comprising a camera and light emission means (1, 2) arranged for imaging a selected portion of the container (3). This means is connected to a processor or the like adapted for recognition, based on a camera-recorded image, of special features related to the container. To be able to use a standard type camera with limited resolution, the imaging of the container is carried out via an assembly of mirror faces (5, 6, 7, 8), which in pairs are arranged relative to one another in such manner that two areas along the longitudinal direction of the container (3) are imaged simultaneously by the camera (1). The mirror faces in respective pairs face each other and are positioned on the same side of the optical axis of the camera (1), with one of the mirror faces (5, 7) adjacent to the optical axis, and during the imaging process the camera is directed towards the mirror faces adjacent to the optical axis, in which the two areas of the container are shown as a respective mirror image in the respective mirror face.